A MIGRATION FORECASTING MODEL FOR ALBERTA AND EDMONTON

Research Paper No.1

THE CITY OF Edmonton PLANNING AND BUILDING

Research Paper No. 1

A MIGRATION FORECASTING MODEL FOR ALBERTA AND EDMONTON

by

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IMPORTANT NOTE

This Technical Paper has been prepared by the Corporate Forcasting Group, Long Range Planning Branch, Planning and Building Department. The Paper documents research results as part of an ongoing forecasting activity. Neither the methods or results have been endorsed by the City of Edmonton.

February, 1986

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:25 DEC 10, 1985

5-YEAR AGE-GROUPS, 2001

AGE	TOTAL	MALE	FEMALE
0 - 4	36852.	18749.	18083.
5 - 9	43013.	21987.	21026.
10 - 14	50814.	25879.	24935.
15 - 19	52162.	26720.	25443.
20 - 24	45379.	23498.	21881.
25 - 29	43521.	22937.	20584.
30 - 34	47350.	24756.	22594.
35 - 39	66950.	32781.	34169.
40 - 44	81666.	41620.	40046.
45 - 49	63735.	33601.	30134.
50 - 54	44276.	22989.	21288.
55 - 59	30752.	15331.	15421.
60 - 64	24414.	11760.	12655.
65 - 69	21387.	10168.	11220.
70 - 74	18007.	8106.	9901.
75 - 79	13426.	5501.	7925.
80 - 84	7730.	2751.	4979.
85+	5704.	1591.	4114.
TOTAL	697115.	350721.	346394.

University of Alberta

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A MIGRATION FORECASTING MODEL FOR ALBERTA AND EDMONTON

1. INTRODUCTION

Migration was a major factor influencing population changes in Alberta and Edmonton, especially during the 1974-1981 boom years and the 1982/1983 recession. A good understanding of underlying factors affecting migration will help improve migration and population projections. The purposes of this report are:

1) to identify the factors affecting migration and determine their influence on Alberta and Edmonton migration through development of a new migration forecasting model;

2) to utilize the new model to forecast Alberta and Edmonton migration levels;

3) to project Edmonton's population for the period 1985-2001 using the new migration forecasts; and

4) to assess the advantages and desirability of the new migration forecasting model, as compared with the existing method.

Presently, only general assumptions on the future level of migration to Edmonton are used in the Planning and Building Department's population forecasting model. A model which generates migration forecasts based on explicit economic forecasts would represent an important enhancement to the population forecasting process for the City of Edmonton.

The time period covered for estimating and testing the model extends from 1975 to 1984. This period was chosen because migration data for Alberta were recently revised by the Alberta Bureau of Statistics for the period. Appendix A lists all data used in this report.

The model presented in this paper was estimated and tested using the ordinary least square. In future, other methods such as two-stage least square may be discussed in a separate report.

2. THE ALBERTA MIGRATION MODEL

The Alberta migration model consists of three components: total in-migration, total out-migration and net migration. Each component is represented by an equation. While equations for total in-migration and net migration show the causal relationship between migration and its influencing factors, the equation for total out-migration is definitional (or residual).

A) Total In-Migration Equation:

The model postulates that migrants are attracted to Alberta when employment opportunities are abundant in Alberta and Alberta's unemployment rate is relatively low compared to Canada's. Therefore, in-migration to Alberta is expected to rise when Alberta's total employment increases and when Alberta's unemployment rate drops or the unemployment rate in the rest of Canada increases, and vice versa. Similarly, more people are expected to move to Alberta from other parts of Canada or other countries when Alberta's economy grows at a faster rate. Conversely, when Alberta's economic activities slow down, migration to Alberta is expected to decline.

The results of statistically estimating and testing the above relationships are shown below:

$$\underset{\text{ALMIGTIN}}{} = \underset{}{96.101} - \underset{\text{RUR}}{155.310} + \underset{\text{ALEMP}}{0.112} + \underset{\text{RGDP}}{3.475}$$
$$\qquad\qquad (2.25) \qquad (4.61) \qquad\qquad (3.14) \qquad\qquad (2.61)$$

$R^2 = 0.921 \quad R^{-2} = 0.898 \quad SEE=12.654 \quad DW=2.04$

Where:

ALMIGTIN = Alberta's total in-migration including provincial and international, in thousands of persons

RUR = Ratio of Alberta's unemployment rate to Canada's unemployment rate

RGDP = Alberta's real GDP growth rate, in percent

ALEMP = Alberta's total employment, in thousands of persons

R^2 = Coefficient of determination

R^{-2} = Coefficient of determination corrected for degree of freedom

SEE = Standard error of estimates

DW = Durbin-Watson statistic

Figures in parenthesis are Student's "t" statistics. The "t" test indicates that all the explanatory variables are statistically significant at the 97.5% level of confidence.

The equation coefficients show that:

1) for a 1% increase in Alberta's real GDP, 3,475 more people migrate to Alberta;

2) for an increase of 1,000 jobs in Alberta, migration to Alberta increases by 112 persons; and

3) for every 0.01 increase in the unemployment ratio (i.e. Alberta's unemployment rate worsens relative to Canada's), migration to Alberta decreases by 1,550 persons.

These three variables explain approximately 92.1% of the total changes in Alberta's total in-migration over the period 1975-1984. The above relationships indicate that the unemployment ratio is the most sensitive and significant factor influencing the level of migration to Alberta. For example, if Alberta's unemployment rate drops from 10.6% to 10.5% while Canada's rate remains unchanged at 10.4%, the ratio falls from 1.02 to 1.01 which, other factors being unchanged, will result in an increase in migration to Alberta of 1,550 persons.

Appendix B lists the results of testing other variables and equations. These equations have either a wrong sign or an insignificant t value for some variables, or a lower R^2 value than the equation discussed above. Consequently, the equations were not considered further.

B) Net Migration Equation

Net migration is also related closely to Alberta's unemployment rate relative to the unemployment rate in other provinces. Not only the current year's unemployment rate affects the current year's migration, but the previous year's unemployment rate also has some influence on the current year's level of migration. A widely tested theory in economic literature shows that information sent back by previous migrants about economic and social conditions in the destination influences potential migrants' decision (T. Schweitzer, Migration and a Small Long Term Economic Model of Alberta). This variable is commonly represented by the previous year's level of migration. Moreover, more people are expected to move to Alberta when Alberta has a higher economic growth rate compared to other parts of Canada; and vice versa.

The following equation displays the tested results based on the above relationships and theories.

ALMIGN = 191.62 - 236.42 RUR - 0.2334 ALMIGNLI + 0.9878 GDPAC
(45.95) (50.08) (10.28) (3.07)

R^2=0.9997 R^{-2} = 0.9996 SEE = 0.80 DW = 2.87

Where:

ALMIGN = Alberta's net migration, in thousands of persons.

ALMIGNL1 = Alberta's net migration in the previous year, in thousands of persons.

RUR = Ratio of Alberta's unemployment rate relative to Canada's unemployment rate.

GDPAC = Ratio of Alberta's real GDP growth rate relative to Canada's rate.

The Student's "t" test shows that all the explanatory variables are statistically significant at the 99% level of confidence. The two explanatory variables account for 99.9% of the total variation of Alberta's net migration during the period 1975-1984.

The unemployment ratio is even more sensitive in the net migration equation than in the total in-migration equation; with a 0.01 increase in the unemployment ratio resulting in a decrease of 2,364 net migrants to Alberta.

This equation also demonstrates that the previous year's migration has a negative impact on current year's migration. For an increase of 1,000 persons in the previous year's migration, there is a decrease of 233 net migrants to Alberta. This relationship reflects that the unemployment level and other economic conditions in Alberta in the past year are transmitted back to potential migrants, affecting the level of migration to Alberta in the current year. The equation also shows that, if the ratio of Alberta's real GDP growth rate over Canada's rate increases by one, there is an increase of 988 net migrants to Alberta.

The results of other tested equations are shown in Appendix B. These equations are not as good as the one discussed above, either having a wrong sign or an insignificant t value for some variables, or a lower R^2 value.

C) Total Out-Migration Equation

Total out-migration is calculated as the difference between total in-migration and net migration, i.e.:

ALMIGTOUT = ALMIGTIN - ALMIGN

Where:

ALMIGTOUT = Alberta's total out-migration including provincial and international, in thousands of persons.

3. THE EDMONTON MIGRATION MODEL

Edmonton migration can also be split into three components: total in-migration, total out-migration and net migration. However, data for Edmonton's total in-migration and total out-migration is available only for 1982 and 1983 and therefore, an application of the regression analysis to these two variables is impossible. Consequently, only Edmonton's net migration is estimated and tested in this report.

A) Net Migration Equation

Edmonton's economy shares in the trend of Alberta's economy. When Alberta's economy grows vigorously and attracts a large number of migrants, Edmonton will share a portion of the migrants. Therefore, Alberta's economic growth rate and Alberta's net migration both have a positive impact on Edmonton's net migration. Similarly, more job opportunities available in Edmonton will attract more people moving to Edmonton. Job opportunity is represented by total employment. The tested equation is shown below:

$$\begin{array}{lllll} \text{EDMIGN} = & -27.474 + & 0.122\ \text{ALMIGN} + & 0.075\ \text{EDEMP} + & 0.384\ \text{RGDP} \\ & (2.91) & (4.08) & (2.93) & (1.49) \end{array}$$

$R^2 = 0.90$ $R^{-2} = 0.871$ SEE = 2.229 DW =2.6

Where:

EDMIGN = Edmonton's net migration, in thousands of persons.
ALMIGN = Alberta's net migration, in thousands of persons.
EDEMP = Edmonton's total employment, in thousands of persons.
RGDP = Alberta's GDP growth rate, in percent.

The Student's "t" test shows that all the explanatory variables are statistically significant at the 90% level of confidence. The three variables together explain 90% of the total variation of Edmonton's net migration during the period 1975-1984.

The equation also shows that:

a) for a one thousand person increase in Alberta's net migration, Edmonton's net migration rises by 122 persons;
b) for a one thousand person increase in Edmonton's total employment, Edmonton's net migration increases by 75 persons; and
c) for a 1% increase in Alberta's GDP, Edmonton's net migration rises by 384 persons.

The results of testing other variables and equations are listed in Appendix B. These equations have either an insignificant t value for some variables or a lower R^2 value than the equation discussed above.

B) Total In-Migration Equation

Because of lack of data, testing of Edmonton's total in-migration equation is impossible. However, a reasonable assumption is that Edmonton's total in-migration has a similar relationship with Edmonton's total employment and Alberta's GDP growth as Edmonton's net migration. Furthermore, the relation between Edmonton's total in-migration and Alberta's total in-migration is assumed to be similar to the relation between Edmonton's net migration and Alberta's net migration. Therefore, the following equation is adopted to show the relationship:

EDMIGTIN = -9.8 +0.122 ALMIGTIN + 0.075 EDEMP +0.384 RGDP

Where:

EDMIGTIN = Edmonton's total in-migration, in thousands of persons.
ALMIGTIN = Alberta's total in-migration, in thousands of persons.
EDEMP = Edmonton's total employment, in thousands of persons.
RGDP = Alberta's GDP growth rate, in percent.

C) Total Out-Migration Equation

Total out-migration is computed as the difference between total in-migration and net migration, i.e.,

EDMIGTOUT = EDMIGTIN - EDMIGN

Where:

EDMIGTOUT = Edmonton's total out-migration, including provincial and international, in thousands of persons.

4. MIGRATION FORECASTS, 1985-1991

As the migration models described above link migration with Alberta's economic conditions relative to the rest of Canada, prior knowledge of economic forecasts (i.e., unemployment rates, total employment and GDP) for future years is a prerequisite for the migration forecasts. The following table shows the economic forecasts used in forecasting Alberta's and Edmonton's migration for the period 1985-1991.

	Unemployment Rate			Employment		Real GDP Growth (1)		
	Alberta[1] (%)	Canada[1] (%)	Alberta Canada Ratio	Alberta[2] ('000)	Edmonton[3] ('000)	Alberta (%)	Canada (%)	Ratio
1985	10.0	11.0	.909	1,128	349	3.5	4.5	.778
1986	8.8	10.8	.815	1,143	353	4	3	1.333
1987	8.4	10.6	.792	1,167	361	3	3	1.0
1988	7.8	10.2	.765	1,186	367	2.5	3	.833
1989	7.3	9.6	.760	1,208	374	3	3	1.0
1990	7.0	9.4	.745	1,226	379	3.5	3	1.167
1991	6.8	9.2	.739	1,248	386	4	3	1.333

Sources: (1) The City of Edmonton, Planning and Building Department

(2) Taken from Economic Base Analysis Final Report, June 1985

(3) 1985 - estimate

1986-1991 - based on percent increases obtained from the Economic Base Analysis Final Report, June 1985

Applying the above economic forecasts to the migration models described in the previous section, the following migration forecasts are obtained for Alberta and Edmonton.

	Alberta			Edmonton		
	In-Migration	Out-Migration	Net	In-Migration	Out-Migration	Net
1985	93,400	107,700	-14,300	29,100	30,800	-1,700
1986	108,000	104,600	3,500	31,200	30,500	700
1987	114,200	109,700	4,500	32,500	31,100	1,400
1988	120,500	109,600	10,500	33,700	31,200	2,500
1989	123,800	113,400	10,300	34,600	31,600	3,000
1990	128,100	113,800	14,200	35,400	31,600	3,800
1991	131,500	116,800	14,900	36,300	32,000	4,300

As a check on the reasonableness of the Alberta net migration figures, the following table compares the new net migration forecasts for Alberta and Edmonton with the net migration assumptions used by Alberta Bureau of Statistics and the City of Edmonton Planning and Building Department, separately, to generate the existing Alberta and Edmonton population projections for 1985-1991. The new net migration forecasts for Edmonton are lower than the existing assumptions prior to 1986 and higher after 1986. The new Alberta net migration forecasts are very close to the Alberta Bureau of Statistics low assumption except for 1986.

	Alberta Net Migration			Edmonton Net Migration	
	New Forecasts	ABS Assumptions(1)		New Forecasts	Existing Assumption(2)
		Low	Medium		
1985	-14,300	-15,000	-3,200	-1,700	-1,000
1986	3,500	-3,200	850	700	-500
1987	4,500	4,200	7,550	1,400	0
1988	10,500	9,350	11,350	2,500	500
1989	10,300	11,550	13,250	3,000	1,000
1990	14,200	12,600	14,800	3,800	2,000
1991	14,900	14,300	16,400	4,300	4,000

Sources: (1) Figures are, for the Calendar years, adjusted from Alberta Bureau of Statistics, Alberta Population Projections Update, 1984-2011, May, 1984, Tables 4 and 5.

(2) The City of Edmonton, Planning and Building Department, Population Projections for the City of Edmonton, July, 1984.

5. POPULATION PROJECTIONS, 1985-1991

Before applying the Edmonton migration forecasts to the City's population projection model, assumptions are required regarding the sex and age distributions of the migrants. The sex distribution used by Alberta Bureau of Statistics in their population projection is adopted in this Section, which assumes males account for 56% of total in-migrants, total out-migrants and net migrants. The 1983 age distribution of migrants is assumed to remain unchanged over the period 1985-1991. The Edmonton migration forecasts from Section 4, plus the assumptions on the age-sex distribution of migrants, were then applied to the Planning and Building Department's population projection model (Birth and death rates were the same for both projections.) The new migration-based Edmonton population projection for the period 1985-1991 is shown below with a comparison to the existing official projection.

	New Migration-Based Projection	Existing Projection
1985	567,438	570,165
1986	574,357	576,094
1987	581,748	582,210
1988	589,998	588,431
1989	598,477	594,710
1990	607,468	601,367
1991	616,663	609,049

The migration-based projection yields a slightly lower population forecast to 1988 as a result of a combination of the lower forecast net migration for 1984 and 1985 and the different assumed sex distribution of the migrants. After 1988, the new migration-based projection yields a higher population projection. The migration-based projection produces a population growth rate of 1.21% per year over the period 1983-1991, compared with a 1.05% growth rate per year for the existing official projection.

6. POPULATION PROJECTIONS, 1992-2001

Because economic forecasts are not available beyond 1991, migration forecasts cannot be made for the period 1991-2001 using the above model. However, an assumption can be made that Edmonton's total annual in-migration will be 38,000 and total annual out-migration will be 33,500, with a net migration of 4,500 per year for 1992 to 2001. (These assumptions basically reflect a rounding off of the 1991 figures for Edmonton and then assuming the figures remain constant.) By applying these migration figures, together with the 56/44 sex distribution and the 1983 age distribution of migrants, to the population projection model, the following new population projections are obtained for the period (compared with the existing official projections which have an assumed net migration of 4,500 persons in 1992 and 6,000 persons per year for 1993 to 2001).

	New Migration-Based Projection	Existing Projection
1992	625,742	616,888
1993	634,515	625,342
1994	642,980	633,459
1995	651,143	641,238
1996	659,025	648,699
1997	666,635	655,853
1998	674,013	662,746
1999	681,183	669,409
2000	688,173	675,879
2001	695,019	682,197

The migration-based projection yields a higher population forecast than the existing projection, attributable mainly to the different sex distribution of the migrants. The growth rate for the migration-based projection is 1.17% per year over the period 1992-2001, compared with 1.12% per year for the existing official projection.

Appendix C lists the migration-based projection by age and sex for the period 1985-2001.

7. AN ALTERNATIVE POPULATION PROJECTION, 1985-2001

In the above projections, the 1983 age distribution of migrants was assumed to be unchanged over the forecast period. This assumption may not hold for the future years. In this section, the following assumptions on the age and sex distributions of migrants which were used by Alberta Bureau of Statistics in their population projections for Alberta, are applied to the City's population forecasting model for the 1985 to 2001 period.

Age-Sex Distribution of Migrants

Age	Males (%)	Females (%)
0-4	2.68	2.18
5-9	4.36	4.05
10-14	3.15	2.89
15-19	5.16	4.80
20-24	14.03	11.90
25-29	11.72	8.06
30-34	6.43	4.92
35-39	3.81	2.40
40-44	2.33	1.47
45-49	1.26	0.90
50-54	0.90	0.52
55-59	0.08	0.00
60+	0.00	0.00
Sub-total	55.91	44.09

Source: Alberta Bureau of Statistics, Alberta Population Projections Update, 1984-2001, May 1984, Table 7

The above distributions by 5-year age groups were further smoothed by a computer model to generate a single year age distribution before being applied to the population forecasting model. The following table shows the Edmonton population projections for the period 1985-2001, based on the above age-sex distributions, compared with the projections produced in Section 6 and the existing official projections.

	Alternative Projection	Migration-Based Projection	Existing Projection
1985	567,690	567,438	570,165
1986	574,904	574,357	576,094
1987	582,679	581,748	582,210
1988	591,368	589,998	588,431
1989	600,307	598,477	594,710
1990	609,741	607,468	601,367
1991	619,326	616,663	609,049
1992	628,724	625,742	616,888
1993	637,715	634,515	625,342
1994	646,285	642,980	633,459
1995	654,442	651,143	641,238
1996	662,221	659,025	648,699
1997	669,654	666,635	655,853
1998	676,807	674,013	662,746
1999	683,732	681,183	669,409
2000	690,483	688,173	675,879
2001	697,115	695,019	682,197

The alternative projection yields a slightly higher final year population forecast than the projections in Section 6 and the existing official projections. However, the difference of 15,000 persons in the year 2001 between the alternative projections and the existing projections (a difference of only 2.2%) is not significant. The population growth rate is 1.22% per year for the alternative projections over the period 1983-2001, compared with 1.21% per year for the projections from Section 6 and 1.10% per year for the existing official projections. For a sixteen year forecast period, the differences are also not considered significant.

Appendix D shows the alternative population projections by age and sex for the period 1985-2001.

8. CONCLUSIONS

In the previous sections, a strong relationship was identified between migration and the general economic conditions in Alberta and Edmonton such as Alberta's real GDP growth, total employment and Alberta's unemployment rate relative to Canada's rate. These relationships, represented by the equations shown in Sections 2 and 3 and duplicated below, allow forecasts of Edmonton's migration and population to reflect economic forecasts. This is a major advance over the existing approach which does not explicitly link migration assumptions to economic forecasts. Therefore, the following model and procedures are proposed for use in forecasting Edmonton's migration and population for future years.

A) The Migration Model

(1) ALMIGN = 191.62 - 236.42 RUR - 0.2334 ALMIGNL1 + 0.9878 GDPAC

(2) ALMIGTIN = 96.101 - 155.310 RUR + 0.112 ALEMP + 3.475 RGDP

(3) EDMIGN = -27.474 + 0.122 ALMIGN + 0.075 EDEMP + 0.384 RGDP

(4) EDMIGTIN = -9.8 + 0.122 ALMIGTIN + 0.075 EDEMP + 0.384 RGDP

(5) EDMIGTOUT = EDMIGTIN - EDMIGN

where:

ALMIGTIN =	Alberta's total in-migration including provincial and international, in thousands of persons.
ALMIGN =	Alberta's net migration, in thousands of persons.
ALMIGNL1 =	Alberta's net migration in the previous year, in thousands of persons.
EDMIGN =	Edmonton's net migration, in thousands of persons.
EDMIGTIN =	Edmonton's total in-migration, in thousands of persons.
EDMIGTOUT =	Edmonton's total out-migration, in thousands of persons.
RUR =	Ratio of Alberta's unemployment rate to Canada's unemployment rate.
RGDP =	Alberta's real GDP growth rate, in percent.
ALEMP =	Alberta's total employment, in thousands of persons.
EDEMP =	Edmonton's total employment, in thousands of persons.
GDPAC =	Ratio of Alberta's real GDP growth rate over Canada's rate.

B) Edmonton's Migration and Population Projection

The following procedures (or steps) are proposed for generating Edmonton's migration and population projections:

(1) Generate forecasts for Edmonton's net migration, total in-migration and total out-migration from the above migration model.

(2) Allocate the forecasted migration figures to the different age and sex groups based on the Alberta Bureau of Statistics age-sex distribution of migrants as displayed in Section 7.

(3) Smooth the 5-year age distribution obtained in step 2 into a single year age distribution of migrants for both sexes.

(4) Apply the single year age distribution of migrants obtained in step 3, together with the 1983 survival ratios and birth rates, to the Corporate Forecasting Group's population forecasting model to generate population projections by age and sex.

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APPENDIX A

Historical Data, 1975 - 1984

APPENDIX A:
HISTORICAL DATA, 1975-1984

	ALMIGN	ALMIGTIN	ALMIGTOUT	EDMIGN	RGDP (%)	RUR	ALEMP ('000)	EDEMP ('000)	RINV ($Million)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1975	38,600	91,861	53,288	5,054	4.7	.59	788	268	3,398
1976	51,700	131,910	80,165	4,698	4.3	.56	838	278	4,227
1977	48,900	138,915	103,570	1,427	5.8	.56	880	270	4,394
1978	48,400	140,850	92,405	8,056	6.6	.57	937	290	4,894
1979	57,100	150,535	93,405	8,874	10.6	.53	1,007	310	5,643
1980	66,600	157,110	90,570	9,282	5.1	.49	1,078	332	6,241
1981	56,100	170,700	112,100	13,625	4.9	.51	1,152	356	7,281
1982	14,700	90,300	70,900	1,115	-4.3	.70	1,132	347	6,520
1983	-28,500	69,900	98,400	-3,610	-3.4	.91	1,115	332	5,237
1984	-35,600	73,900	109,500	-4,000	1.2	.99	1,114	328	5,342

Sources: Alberta Bureau of Statistics, Alberta Economic Accounts, 1983, January 1985 for Columns 5 and 9; Alberta Statistical Review, Third Quarter, 1985, November 1985, for Columns 1, 2, 3, 7 and 8, The City of Edmonton Planning and Building Department for Column 4.

Definitions:

ALMIGN = Alberta net migration in thousands.

EDMIGN = Edmonton net migration in thousands

ALMIGTIN = Alberta total in-migration, including international and provincial, in thousands.

ALMIGTOUT = Alberta total out-migration, including international and provincial, in thousands.

RUR = Ratio of Alberta unemployment rate to Canada unemployment rate.

RGDP = Alberta's GDP growth rate.

ALEMP = Alberta employment in thousands

EDEMP = Edmonton employment in thousands

RINV = Alberta's total investment in 1971 millions of dollars.

APPENDIX B

Migration Regressions

APPENDIX B:
MIGRATION REGRESSIONS

A. Alberta's Net Migration

1. ALMIGN = 168.47 - 207.71 RUR - 0.0035 ALEMP
(16.14) (23.94) (0.31)
R^2 = 0.99 SEE = 4.13 DW = 1.6

2. ALMIGN = 167.62 - 208.91 RUR - 0.0004 RINV
(19.96) (26.25) (0.30)
R^2 = 0.99 SEE = 4.13 DW = 1.64

3. ALMIGN = 179.41 - 201.483 RUR - 0.0182 ALEMPL1
(19.65) (23.94) (1.61)
R^2 = 0.994 SEE = 3.49

4. ALMIGN = 175.36 - 204.5675 RUR - 0.0023 RINVL1
(35.04) (34.90) (2.60)
R^2 = 0.996 SEE = 2.86

5. ALMIGN = 155.1929 - 196.2609 RUR + 0.6790 RGDP
(21.36) (20.44) (1.80)
R^2 = 0.9931 SEE = 3.441 DW = 2.7

6. ALMIGN = 165.643 - 208.8034 RUR
(33.44) (27.90)
R^2 = 0.9898 SEE = 3.89 DW = 1.6

7. ALMIGN = 198.105 - 250.902 RUR - 0.0011 RINV + 0.0112 ALEMP
(24.41) (20.6) (0.36) (0.40)
-0.2629 ALMIGNL1
(5.84)

R^2 = 0.999 SEE = 1.487

8. ALMIGN = 206.4156 - 253.0722 RUR - 0.1533 RGDP -0.2849 ALMIGNL1
(22.84) (24.68) (0.76) (5.85)

R^2 = 0.999 SEE = 1.287

9. ALMIGN = 200.58 - 246.47 RUR - 0.2584 ALMIGNL1
(43.54) (46.85) (7.87)

R^2 = 0.9992 SEE = 1.24 DW = 3.34

B. Alberta's Total In-migration

1. ALMIGTIN = 277.41 - 208.8851 RUR- 0.1374 ALMIGTINL1
(5.99) (5.49) (0.68)

R^2 = 0.889 SEE = 14.366

2. ALMIGTIN = 197.41 - 135.9767 RUR + 0.0504 ALMIGTINL1 + 2.638 RGDP
(2.97) (2.33) (0.23) (1.55)

R^2 = 0.925 SEE = 12.942 DW = 1.0

C. Edmonton's Net Migration

1. EDMIGN = 23.551 - 29.4328 RUR - 0.0246 EDMIGNL1
(3.49) (3.44) (0.08)

R^2 = 0.759 SEE = 3.453

2. EDMIGN = -5.054 - 24.641 RUR + 0.076 EDEMP + 0.457 RGDP
(0.57) (4.50) (3.19) (2.03)

R^2 = 0.914 SEE = 2.067 DW = 2.77

APPENDIX C

Population Projection by Age and Sex, 1985-2001

Appendix C

EDMONTON DEMOGRAPHIC DATA BASE 1983

AGE	POPULATION		SURVIVAL RATIOS		DISTRIBUTION OF MIGRANTS IN		DISTRIBUTION OF MIGRANTS OUT		BIRTH RATES
	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES	
0	5054.	4583.	0.9454	0.9556	0.	0.	0.	0.	0.0
1	4702.	4450.	0.9991	0.9992	0.	0.	0.	0.	0.0
2	4544.	4252.	0.9997	0.9995	201.	197.	337.	269.	0.0
3	4301.	3972.	0.9996	0.9996	223.	201.	119.	157.	0.0
4	3977.	3760.	0.9991	0.9996	198.	181.	251.	220.	0.0
5	3761.	3563.	0.9997	0.9996	196.	162.	163.	181.	0.0
6	3774.	3552.	0.9994	0.9998	171.	143.	148.	99.	0.0
7	3629.	3459.	0.9997	0.9999	165.	118.	124.	200.	0.0
8	3370.	3310.	0.9997	0.9997	156.	140.	86.	146.	0.0
9	3470.	3206.	0.9997	0.9997	146.	123.	60.	83.	0.0
10	3531.	3254.	0.9999	1.0000	185.	128.	8.	28.	0.0
11	3633.	3266.	0.9998	0.9998	114.	110.	134.	133.	0.0
12	3748.	3417.	0.9996	1.0000	126.	123.	50.	35.	0.0
13	3716.	3560.	0.9996	0.9999	110.	87.	186.	18.	0.0
14	3691.	3488.	0.9995	0.9998	114.	95.	81.	116.	0.0
15	3858.	3572.	0.9997	0.9997	99.	94.	123.	71.	0.0094
16	3791.	3635.	0.9988	0.9992	130.	99.	18.	81.	0.0203
17	4295.	4113.	0.9987	0.9996	91.	135.	112.	32.	0.0388
18	4854.	5112.	0.9983	0.9993	267.	376.	8.	8.	0.0582
19	5969.	6534.	0.9980	0.9995	395.	785.	123.	8.	0.0664
20	6760.	7361.	0.9986	0.9996	796.	1166.	8.	8.	0.0684
21	7155.	7832.	0.9986	0.9997	552.	573.	311.	348.	0.0764
22	7893.	8156.	0.9985	0.9996	530.	591.	498.	282.	0.0842
23	8004.	7858.	0.9985	0.9996	456.	458.	903.	775.	0.0951
24	8447.	7908.	0.9987	0.9992	468.	368.	588.	674.	0.1016
25	8191.	7682.	0.9985	0.9993	650.	453.	534.	340.	0.1064
26	7970.	7184.	0.9991	0.9994	351.	357.	943.	519.	0.1142
27	7566.	6879.	0.9986	0.9996	385.	285.	646.	487.	0.1137
28	7235.	6515.	0.9989	0.9996	344.	325.	504.	388.	0.1092
29	7103.	6168.	0.9985	0.9993	322.	272.	485.	396.	0.1121
30	6317.	5602.	0.9987	0.9992	564.	350.	8.	71.	0.0969
31	5497.	4953.	0.9992	0.9993	185.	180.	881.	513.	0.0922
32	5350.	4712.	0.9981	0.9996	255.	214.	169.	124.	0.0722
33	4858.	4414.	0.9984	0.9999	218.	179.	549.	276.	0.0579
34	4800.	4325.	0.9983	0.9991	129.	154.	545.	167.	0.0479
35	4602.	4216.	0.9988	0.9987	291.	172.	8.	49.	0.0323
36	4142.	3877.	0.9982	0.9989	133.	151.	441.	140.	0.0277
37	3614.	3461.	0.9984	0.9986	197.	406.	163.	8.	0.0194
38	3244.	3151.	0.9973	0.9982	136.	108.	201.	130.	0.0154
39	3545.	3318.	0.9974	0.9990	132.	108.	156.	78.	0.0097
40	3361.	3225.	0.9984	0.9991	548.	353.	8.	8.	0.0060
41	2914.	2923.	0.9975	0.9980	42.	54.	421.	215.	0.0049
42	2963.	2999.	0.9975	0.9976	111.	43.	90.	109.	0.0023
43	2784.	2767.	0.9964	0.9975	51.	62.	334.	165.	0.0021
44	2831.	2729.	0.9968	0.9975	73.	53.	119.	92.	0.0008
45	2654.	2672.	0.9971	0.9978	173.	75.	8.	35.	0.0007
46	2617.	2591.	0.9952	0.9974	32.	29.	243.	125.	0.0008
47	2693.	2650.	0.9947	0.9973	61.	71.	51.	75.	0.0
48	2553.	2629.	0.9948	0.9974	71.	75.	36.	8.	0.0
49	2864.	2651.	0.9951	0.9962	43.	51.	56.	44.	0.0
50	2835.	2617.	0.9935	0.9970	541.	256.	8.	8.	0.0

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:11:05 NOV 22, 1985

5-YEAR AGE-GROUPS, 1983

AGE	TOTAL	MALE	FEMALE
0 - 4	43594.	22579.	21016.
5 - 9	35094.	18004.	17090.
10 - 14	35302.	18318.	16984.
15 - 19	45733.	22767.	22967.
20 - 24	77373.	38258.	39115.
25 - 29	72491.	38064.	34427.
30 - 34	50827.	26822.	24005.
35 - 39	37168.	19146.	18022.
40 - 44	29495.	14853.	14642.
45 - 49	26571.	13380.	13191.
50 - 54	26097.	13374.	12723.
55 - 59	22579.	11022.	11557.
60 - 64	18570.	8806.	9765.
65 - 69	14080.	6323.	7756.
70 - 74	10611.	4505.	6106.
75 - 79	7313.	3027.	4287.
80 - 84	4386.	1645.	2741.
85+	3025.	1020.	2005.
TOTAL	560306.	281911.	278395.

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AGE	POPULATION		SURVIVAL RATIOS		DISTRIBUTION OF MIGRANTS IN		DISTRIBUTION OF MIGRANTS OUT		BIRTH RATES
	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES	
51	2586.	2441.	0.9935	0.9957	1.	1.	375.	209.	0.0
52	2756.	2634.	0.9915	0.9966	46.	48.	42.	73.	0.0
53	2653.	2514.	0.9924	0.9964	44.	23.	154.	71.	0.0
54	2545.	2517.	0.9900	0.9955	26.	29.	95.	39.	0.0
55	2386.	2365.	0.9893	0.9958	50.	84.	16.	8.	0.0
56	2207.	2291.	0.9877	0.9925	1.	22.	196.	74.	0.0
57	2196.	2393.	0.9885	0.9948	9.	49.	69.	8.	0.0
58	2060.	2223.	0.9861	0.9929	44.	35.	4.	11.	0.0
59	2173.	2285.	0.9856	0.9912	5.	37.	64.	10.	0.0
60	2043.	2162.	0.9854	0.9917	313.	217.	8.	8.	0.0
61	1926.	2107.	0.9825	0.9899	1.	7.	147.	134.	0.0
62	1838.	2045.	0.9815	0.9913	78.	81.	8.	8.	0.0
63	1555.	1746.	0.9796	0.9877	330.	25.	8.	16.	0.0
64	1445.	1706.	0.9776	0.9903	12.	57.	36.	8.	0.0
65	1334.	1649.	0.9758	0.9876	16.	65.	38.	8.	0.0
66	1270.	1544.	0.9693	0.9851	11.	41.	34.	8.	0.0
67	1298.	1536.	0.9674	0.9855	7.	39.	14.	8.	0.0
68	1202.	1541.	0.9664	0.9820	69.	42.	8.	8.	0.0
69	1219.	1488.	0.9611	0.9799	37.	32.	8.	8.	0.0
70	1069.	1380.	0.9656	0.9866	227.	174.	8.	8.	0.0
71	907.	1229.	0.9570	0.9821	1.	0.	58.	70.	0.0
72	889.	1263.	0.9596	0.9791	62.	61.	8.	8.	0.0
73	847.	1158.	0.9571	0.9729	4.	76.	29.	8.	0.0
74	793.	1076.	0.9569	0.9724	50.	34.	8.	8.	0.0
75	700.	978.	0.9495	0.9687	6.	49.	9.	8.	0.0
76	631.	885.	0.9447	0.9669	12.	1.	16.	25.	0.0
77	596.	868.	0.9447	0.9632	1.	5.	58.	11.	0.0
78	552.	793.	0.9281	0.9569	3.	22.	19.	8.	0.0
79	548.	763.	0.9191	0.9538	3.	13.	13.	2.	0.0
80	450.	683.	0.9263	0.9512	6.	11.	19.	31.	0.0
81	369.	632.	0.8874	0.9449	1.	7.	28.	7.	0.0
82	353.	595.	0.8821	0.9379	45.	26.	8.	8.	0.0
83	265.	455.	0.8727	0.9209	14.	10.	8.	2.	0.0
84	209.	377.	0.8486	0.9029	11.	6.	8.	5.	0.0
85	148.	297.	0.8667	0.9110	1.	4.	2.	4.	0.0
86	144.	281.	0.8328	0.8892	31.	1.	8.	22.	0.0
87	145.	252.	0.8301	0.8778	1.	1.	2.	5.	0.0
88	116.	205.	0.8444	0.8774	27.	5.	8.	5.	0.0
89	358.	741.	0.8199	0.8624	18.	3.	8.	1.	0.0
90	110.	231.	0.7941	0.8231	73.	188.	8.	8.	0.0
	281911.	278395.			13624.	12920.	13703.	9513.	

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C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:12:39 NOV 22, 1985

5-YEAR AGE-GROUPS, 1984

AGE	TOTAL	MALE	FEMALE
0 - 4	45194.	23414.	21780.
5 - 9	35782.	18575.	17207.
10 - 14	34980.	18233.	16748.
15 - 19	41395.	20876.	20518.
20 - 24	74263.	36071.	38193.
25 - 29	72400.	37801.	34599.
30 - 34	53169.	28062.	25107.
35 - 39	39105.	19895.	19210.
40 - 44	30152.	15227.	14925.
45 - 49	26259.	13186.	13073.
50 - 54	26073.	13491.	12582.
55 - 59	22680.	10948.	11731.
60 - 64	20147.	9824.	10323.
65 - 69	14319.	6334.	7985.
70 - 74	11463.	4934.	6529.
75 - 79	7426.	2991.	4435.
80 - 84	4658.	1752.	2907.
85+	3257.	1111.	2146.
TOTAL	562717.	282721.	279995.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:11:05 NOV 22, 1985

SELECTED AGE-GROUPS, 1983

AGE	TOTAL	MALE	FEMALE
15 - 49	339658.	173290.	166368.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:13:08 NOV 22, 1985

5-YEAR AGE-GROUPS, 1985

AGE	TOTAL	MALE	FEMALE
0 - 4	46374.	23954.	22420.
5 - 9	37018.	19603.	17416.
10 - 14	34794.	18222.	16571.
15 - 19	39223.	19973.	19250.
20 - 24	71573.	34226.	37347.
25 - 29	70991.	36921.	34071.
30 - 34	56073.	29674.	26399.
35 - 39	41335.	20678.	20658.
40 - 44	30662.	15549.	15113.
45 - 49	25988.	13093.	12896.
50 - 54	25896.	13386.	12510.
55 - 59	22921.	10993.	11928.
60 - 64	21391.	10578.	10813.
65 - 69	14833.	6590.	8243.
70 - 74	12307.	5359.	6948.
75 - 79	7700.	3032.	4668.
80 - 84	4815.	1785.	3031.
85+	3546.	1224.	2322.
TOTAL	567438.	284836.	282602.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:12:39 NOV 22, 1985

SELECTED AGE-GROUPS, 1984

AGE	TOTAL	MALE	FEMALE
15 - 49	336742.	171117.	165624.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	13552.	10648.	24200.
OUT-MIGRANTS	15904.	12496.	28400.
NET-MIGRANTS	-2352.	-1848.	-4200.
BIRTHS	5266.	5060.	10326.
DEATHS	1896.	1536.	3432.
NAT. INCREASE	3371.	3524.	6894.
POP. INCREASE	1019.	1676.	2694.

CRUDE BIRTH RATE: 0.018
GENERAL FERTILITY RATE: 0.062
CRUDE DEATH RATE: 0.006

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:13:35 NOV 22, 1985

5-YEAR AGE-GROUPS, 1986

AGE	TOTAL	MALE	FEMALE
0 - 4	47211.	24309.	22902.
5 - 9	38429.	20605.	17824.
10 - 14	35132.	18572.	16560.
15 - 19	38268.	19565.	18703.
20 - 24	68703.	32677.	36025.
25 - 29	69477.	35801.	33675.
30 - 34	58822.	31188.	27635.
35 - 39	43457.	21510.	21947.
40 - 44	31984.	16284.	15700.
45 - 49	25685.	12886.	12799.
50 - 54	25941.	13486.	12455.
55 - 59	22978.	10972.	12007.
60 - 64	22224.	11020.	11204.
65 - 69	16036.	7218.	8819.
70 - 74	13120.	5860.	7260.
75 - 79	8111.	3128.	4983.
80 - 84	4840.	1739.	3101.
85+	3941.	1374.	2567.
TOTAL	574357.	288192.	286165.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:13:08 NOV 22, 1985

SELECTED AGE-GROUPS, 1985

AGE	TOTAL	MALE	FEMALE
15 - 49	335845.	170112.	165732.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	16296.	12804.	29100.
OUT-MIGRANTS	17248.	13552.	30800.
NET-MIGRANTS	-952.	-748.	-1700.
BIRTHS	5237.	5032.	10268.
DEATHS	1980.	1628.	3608.
NAT. INCREASE	3257.	3404.	6661.
POP. INCREASE	2305.	2656.	4961.

CRUDE BIRTH RATE: 0.018
GENERAL FERTILITY RATE: 0.062
CRUDE DEATH RATE: 0.006

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:14:03 NOV 22, 1985

5-YEAR AGE-GROUPS, 1987

AGE	TOTAL	MALE	FEMALE
0 - 4	47771.	24540.	23231.
5 - 9	39900.	21549.	18351.
10 - 14	35942.	19217.	16725.
15 - 19	37957.	19526.	18431.
20 - 24	66035.	31413.	34622.
25 - 29	67399.	34231.	33168.
30 - 34	61643.	32833.	28810.
35 - 39	44469.	21778.	22691.
40 - 44	34804.	17670.	17134.
45 - 49	25214.	12617.	12597.
50 - 54	26427.	13803.	12623.
55 - 59	22564.	10706.	11857.
60 - 64	22756.	11279.	11477.
65 - 69	17331.	7955.	9376.
70 - 74	13958.	6301.	7657.
75 - 79	8488.	3234.	5255.
80 - 84	4816.	1680.	3136.
85+	4279.	1493.	2786.
TOTAL	581748.	291822.	289926.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:13:35 NOV 22, 1985

SELECTED AGE-GROUPS, 1986

AGE	TOTAL	MALE	FEMALE
15 - 49	336395.	169910.	166484.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	17472.	13728.	31200.
OUT-MIGRANTS	17080.	13420.	30500.
NET-MIGRANTS	392.	308.	700.
BIRTHS	5209.	5004.	10213.
DEATHS	2070.	1723.	3793.
NAT. INCREASE	3139.	3281.	6420.
POP. INCREASE	3531.	3589.	7120.

CRUDE BIRTH RATE: 0.018
GENERAL FERTILITY RATE: 0.061
CRUDE DEATH RATE: 0.007

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:14:35 NOV 22, 1985

5-YEAR AGE-GROUPS, 1988

AGE	TOTAL	MALE	FEMALE
0 - 4	47758.	24373.	23384.
5 - 9	41965.	22882.	19083.
10 - 14	36811.	19927.	16883.
15 - 19	37613.	19379.	18234.
20 - 24	63420.	30214.	33207.
25 - 29	65610.	33066.	32544.
30 - 34	63573.	33752.	29821.
35 - 39	45908.	22344.	23564.
40 - 44	37717.	19039.	18678.
45 - 49	25555.	12857.	12698.
50 - 54	26579.	13876.	12703.
55 - 59	22447.	10662.	11785.
60 - 64	23226.	11448.	11778.
65 - 69	18683.	8830.	9854.
70 - 74	14611.	6577.	8034.
75 - 79	9084.	3478.	5605.
80 - 84	4858.	1639.	3219.
85+	4586.	1604.	2982.
TOTAL	589998.	295944.	294054.

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:14:03 NOV 22, 1985

SELECTED AGE-GROUPS, 1987

AGE	TOTAL	MALE	FEMALE
15 - 49	337519.	170067.	167452.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	18200.	14300.	32500.
OUT-MIGRANTS	17416.	13684.	31100.
NET-MIGRANTS	784.	616.	1400.
BIRTHS	5172.	4969.	10140.
DEATHS	2163.	1819.	3982.
NAT. INCREASE	3008.	3150.	6158.
POP. INCREASE	3792.	3766.	7558.

CRUDE BIRTH RATE: 0.017
GENERAL FERTILITY RATE: 0.061
CRUDE DEATH RATE: 0.007

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:15:03 NOV 22, 1985

5-YEAR AGE-GROUPS, 1989

AGE	TOTAL	MALE	FEMALE
0 - 4	47430.	24211.	23219.
5 - 9	43957.	23964.	19993.
10 - 14	37912.	20769.	17143.
15 - 19	37649.	19492.	18157.
20 - 24	60662.	29037.	31626.
25 - 29	63745.	31610.	32135.
30 - 34	64183.	33934.	30249.
35 - 39	48647.	23787.	24860.
40 - 44	40206.	20083.	20123.
45 - 49	26357.	13337.	13021.
50 - 54	26588.	13900.	12688.
55 - 59	22495.	10811.	11683.
60 - 64	23536.	11496.	12040.
65 - 69	20323.	9872.	10451.
70 - 74	15024.	6691.	8333.
75 - 79	9890.	3861.	6028.
80 - 84	4980.	1631.	3349.
85+	4898.	1723.	3174.
TOTAL	598477.	300208.	298269.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:14:35 NOV 22, 1985

SELECTED AGE-GROUPS, 1988

AGE	TOTAL	MALE	FEMALE
15 - 49	339394.	170649.	168745.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	18872.	14828.	33700.
OUT-MIGRANTS	17472.	13728.	31200.
NET-MIGRANTS	1400.	1100.	2500.
BIRTHS	5126.	4925.	10051.
DEATHS	2253.	1907.	4160.
NAT. INCREASE	2873.	3018.	5891.
POP. INCREASE	4273.	4118.	8391.

CRUDE BIRTH RATE: 0.017
GENERAL FERTILITY RATE: 0.060
CRUDE DEATH RATE: 0.007

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:15:31 NOV 22, 1985

5-YEAR AGE-GROUPS, 1990

AGE	TOTAL	MALE	FEMALE
0 - 4	47046.	24019.	23026.
5 - 9	45452.	24694.	20758.
10 - 14	39452.	21982.	17470.
15 - 19	37728.	19627.	18101.
20 - 24	59560.	28625.	30934.
25 - 29	61987.	30303.	31684.
30 - 34	63427.	33454.	29973.
35 - 39	51933.	25605.	26329.
40 - 44	42812.	21081.	21731.
45 - 49	27015.	13755.	13260.
50 - 54	26546.	13958.	12588.
55 - 59	22411.	10756.	11655.
60 - 64	23924.	11631.	12293.
65 - 69	21574.	10614.	10960.
70 - 74	15603.	6975.	8628.
75 - 79	10646.	4221.	6425.
80 - 84	5213.	1671.	3542.
85+	5145.	1800.	3344.
TOTAL	607468.	304768.	302700.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:15:03 NOV 22, 1985

SELECTED AGE-GROUPS, 1989

AGE	TOTAL	MALE	FEMALE
15 - 49	341449.	171279.	170169.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	19376.	15224.	34600.
OUT-MIGRANTS	17696.	13904.	31600.
NET-MIGRANTS	1680.	1320.	3000.
BIRTHS	5068.	4870.	9938.
DEATHS	2349.	2002.	4350.
NAT. INCREASE	2720.	2868.	5588.
POP. INCREASE	4400.	4188.	8588.

CRUDE BIRTH RATE: 0.017
GENERAL FERTILITY RATE: 0.058
CRUDE DEATH RATE: 0.007

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:16:01 NOV 22, 1985

5-YEAR AGE-GROUPS, 1991

AGE	TOTAL	MALE	FEMALE
0 - 4	46576.	23785.	22792.
5 - 9	46496.	25180.	21316.
10 - 14	41065.	23114.	17951.
15 - 19	38261.	20081.	18180.
20 - 24	59445.	28602.	30844.
25 - 29	59677.	29090.	30587.
30 - 34	62265.	32559.	29706.
35 - 39	54882.	27215.	27667.
40 - 44	45178.	22051.	23127.
45 - 49	28390.	14529.	13861.
50 - 54	26408.	13865.	12543.
55 - 59	22488.	10865.	11623.
60 - 64	24103.	11685.	12418.
65 - 69	22429.	11064.	11365.
70 - 74	16759.	7559.	9200.
75 - 79	11344.	4625.	6719.
80 - 84	5535.	1737.	3798.
85+	5367.	1851.	3516.
TOTAL	616663.	309454.	307210.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:15:31 NOV 22, 1985

SELECTED AGE-GROUPS, 1990

AGE	TOTAL	MALE	FEMALE
15 - 49	344461.	172449.	172011.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	19824.	15576.	35400.
OUT-MIGRANTS	17696.	13904.	31600.
NET-MIGRANTS	2128.	1672.	3800.
BIRTHS	5006.	4809.	9815.
DEATHS	2451.	2098.	4548.
NAT. INCREASE	2555.	2712.	5266.
POP. INCREASE	4683.	4384.	9066.

CRUDE BIRTH RATE: 0.016
GENERAL FERTILITY RATE: 0.057
CRUDE DEATH RATE: 0.007

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:16:59 NOV 22, 1985

5-YEAR AGE-GROUPS, 1992

AGE	TOTAL	MALE	FEMALE
0 - 4	46016.	23507.	22509.
5 - 9	47227.	25532.	21695.
10 - 14	42731.	24181.	18550.
15 - 19	39285.	20835.	18450.
20 - 24	59892.	28906.	30986.
25 - 29	57385.	28060.	29325.
30 - 34	60464.	31167.	29297.
35 - 39	57887.	28935.	28951.
40 - 44	46392.	22437.	23956.
45 - 49	31232.	15937.	15295.
50 - 54	26069.	13692.	12377.
55 - 59	22969.	11162.	11807.
60 - 64	23837.	11519.	12318.
65 - 69	22999.	11340.	11659.
70 - 74	17982.	8228.	9755.
75 - 79	12040.	4965.	7076.
80 - 84	5806.	1800.	4006.
85+	5533.	1884.	3649.
TOTAL	625742.	314085.	311657.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:16:01 NOV 22, 1985

SELECTED AGE-GROUPS, 1991

AGE	TOTAL	MALE	FEMALE
15 - 49	348097.	174126.	173971.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	20328.	15972.	36300.
OUT-MIGRANTS	17920.	14080.	32000.
NET-MIGRANTS	2408.	1892.	4300.
BIRTHS	4938.	4744.	9683.
DEATHS	2555.	2198.	4753.
NAT. INCREASE	2383.	2547.	4929.
POP. INCREASE	4791.	4439.	9229.

CRUDE BIRTH RATE: 0.016
GENERAL FERTILITY RATE: 0.056
CRUDE DEATH RATE: 0.008

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:16:59 NOV 22, 1985

5-YEAR AGE-GROUPS, 1993

AGE	TOTAL	MALE	FEMALE
0 - 4	45396.	23195.	22201.
5 - 9	47318.	25446.	21872.
10 - 14	44934.	25607.	19326.
15 - 19	40262.	21605.	18657.
20 - 24	60183.	29037.	31147.
25 - 29	54951.	26990.	27962.
30 - 34	58824.	30110.	28714.
35 - 39	59896.	29869.	30026.
40 - 44	47975.	23084.	24892.
45 - 49	34113.	17297.	16816.
50 - 54	26494.	13993.	12501.
55 - 59	23109.	11216.	11892.
60 - 64	23809.	11528.	12281.
65 - 69	23500.	11533.	11967.
70 - 74	19217.	8995.	10222.
75 - 79	12590.	5176.	7414.
80 - 84	6234.	1959.	4275.
85+	5713.	1918.	3795.
TOTAL	634515.	318556.	315959.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:16:59 NOV 22, 1985

SELECTED AGE-GROUPS, 1992

AGE	TOTAL	MALE	FEMALE
15 - 49	352536.	176276.	176259.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4867.	4676.	9544.
DEATHS	2665.	2302.	4967.
NAT. INCREASE	2202.	2375.	4577.
POP. INCREASE	4722.	4355.	9077.

CRUDE BIRTH RATE: 0.015
GENERAL FERTILITY RATE: 0.054
CRUDE DEATH RATE: 0.008

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:16:59 NOV 22, 1985

5-YEAR AGE-GROUPS, 1994

AGE	TOTAL	MALE	FEMALE
0 - 4	44757.	22871.	21886.
5 - 9	47059.	25338.	21721.
10 - 14	47031.	26767.	20263.
15 - 19	41432.	22486.	18946.
20 - 24	60729.	29371.	31357.
25 - 29	52322.	25902.	26420.
30 - 34	57066.	28740.	28326.
35 - 39	60558.	30063.	30496.
40 - 44	50831.	24584.	26247.
45 - 49	36561.	18327.	18234.
50 - 54	27358.	14517.	12840.
55 - 59	23112.	11232.	11880.
60 - 64	23907.	11698.	12209.
65 - 69	23867.	11628.	12239.
70 - 74	20678.	9887.	10791.
75 - 79	12962.	5272.	7690.
80 - 84	6818.	2214.	4603.
85+	5939.	1972.	3967.
TOTAL	642980.	322867.	320113.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:16:59 NOV 22, 1985

SELECTED AGE-GROUPS, 1993

AGE	TOTAL	MALE	FEMALE
15 - 49	356204.	177991.	178213.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4797.	4609.	9407.
DEATHS	2769.	2401.	5170.
NAT. INCREASE	2029.	2208.	4237.
POP. INCREASE	4549.	4188.	8737.

CRUDE BIRTH RATE: 0.015
GENERAL FERTILITY RATE: 0.053
CRUDE DEATH RATE: 0.008

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:16:59 NOV 22, 1985

5-YEAR AGE-GROUPS, 1995

AGE	TOTAL	MALE	FEMALE
0 - 4	44126.	22551.	21575.
5 - 9	46687.	25166.	21521.
10 - 14	48582.	27548.	21034.
15 - 19	43003.	23716.	19288.
20 - 24	61158.	29655.	31503.
25 - 29	51273.	25537.	25736.
30 - 34	55292.	27443.	27848.
35 - 39	59765.	29550.	30216.
40 - 44	54184.	26421.	27763.
45 - 49	39086.	19287.	19799.
50 - 54	28048.	14960.	13088.
55 - 59	23037.	11265.	11772.
60 - 64	23858.	11658.	12201.
65 - 69	24266.	11780.	12486.
70 - 74	21787.	10517.	11270.
75 - 79	13458.	5503.	7955.
80 - 84	7349.	2440.	4909.
85+	6187.	2025.	4163.
TOTAL	651143.	327017.	324126.

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:16:59 NOV 22, 1985

SELECTED AGE-GROUPS, 1994

AGE	TOTAL	MALE	FEMALE
15 - 49	359498.	179471.	180026.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4729.	4544.	9273.
DEATHS	2873.	2501.	5374.
NAT. INCREASE	1856.	2043.	3899.
POP. INCREASE	4376.	4023.	8399.

CRUDE BIRTH RATE: 0.014
GENERAL FERTILITY RATE: 0.052
CRUDE DEATH RATE: 0.008

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:00 NOV 22, 1985

5-YEAR AGE-GROUPS, 1996

AGE	TOTAL	MALE	FEMALE
0 - 4	43519.	22243.	21276.
5 - 9	46208.	24934.	21274.
10 - 14	49646.	28060.	21586.
15 - 19	44628.	24854.	19774.
20 - 24	61865.	30178.	31687.
25 - 29	51198.	25546.	25651.
30 - 34	52915.	26205.	26711.
35 - 39	58543.	28615.	29927.
40 - 44	57147.	28024.	29124.
45 - 49	41383.	20222.	21161.
50 - 54	29409.	15726.	13684.
55 - 59	22883.	11166.	11717.
60 - 64	23939.	11758.	12181.
65 - 69	24465.	11854.	12611.
70 - 74	22550.	10897.	11653.
75 - 79	14435.	5976.	8459.
80 - 84	7826.	2690.	5136.
85+	6471.	2074.	4397.
TOTAL	659025.	331019.	328006.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:16:59 NOV 22, 1985

SELECTED AGE-GROUPS, 1995

AGE	TOTAL	MALE	FEMALE
15 - 49	363761.	181608.	182153.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4666.	4483.	9150.
DEATHS	2982.	2597.	5579.
NAT. INCREASE	1685.	1886.	3571.
POP. INCREASE	4205.	3866.	8071.

CRUDE BIRTH RATE: 0.014
GENERAL FERTILITY RATE: 0.050
CRUDE DEATH RATE: 0.009

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:00 NOV 22, 1985

5-YEAR AGE-GROUPS, 1997

AGE	TOTAL	MALE	FEMALE
0 - 4	42964.	21961.	21002.
5 - 9	45648.	24656.	20992.
10 - 14	50377.	28412.	21965.
15 - 19	46290.	25918.	20372.
20 - 24	62882.	30926.	31957.
25 - 29	51642.	25849.	25793.
30 - 34	50634.	25181.	25453.
35 - 39	56753.	27234.	29519.
40 - 44	60118.	29722.	30396.
45 - 49	42577.	20598.	21979.
50 - 54	32182.	17088.	15094.
55 - 59	22553.	10999.	11554.
60 - 64	24382.	12027.	12355.
65 - 69	24209.	11697.	12512.
70 - 74	23038.	11119.	11919.
75 - 79	15431.	6499.	8931.
80 - 84	8283.	2884.	5399.
85+	6676.	2109.	4566.
TOTAL	666635.	334878.	331757.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:00 NOV 22, 1985

SELECTED AGE-GROUPS, 1996

AGE	TOTAL	MALE	FEMALE
15 - 49	367678.	183643.	184035.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4612.	4431.	9043.
DEATHS	3082.	2693.	5775.
NAT. INCREASE	1530.	1738.	3268.
POP. INCREASE	4050.	3718.	7768.

CRUDE BIRTH RATE: 0.014
GENERAL FERTILITY RATE: 0.049
CRUDE DEATH RATE: 0.009

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:00 NOV 22, 1985

5-YEAR AGE-GROUPS, 1998

AGE	TOTAL	MALE	FEMALE
0 - 4	42488.	21720.	20768.
5 - 9	45030.	24345.	20685.
10 - 14	50468.	28327.	22141.
15 - 19	48485.	27338.	21147.
20 - 24	63853.	31690.	32164.
25 - 29	51932.	25979.	25954.
30 - 34	48211.	24118.	24093.
35 - 39	55127.	26186.	28941.
40 - 44	62105.	30643.	31462.
45 - 49	44139.	21236.	22903.
50 - 54	34997.	18406.	16591.
55 - 59	22963.	11286.	11677.
60 - 64	24509.	12074.	12436.
65 - 69	24178.	11703.	12474.
70 - 74	23475.	11277.	12198.
75 - 79	16420.	7092.	9328.
80 - 84	8655.	3001.	5654.
85+	6982.	2196.	4787.
TOTAL	674013.	338614.	335399.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:00 NOV 22, 1985

SELECTED AGE-GROUPS, 1997

AGE	TOTAL	MALE	FEMALE
15 - 49	370896.	185427.	185468.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4569.	4390.	8958.
DEATHS	3186.	2791.	5977.
NAT. INCREASE	1382.	1599.	2981.
POP. INCREASE	3902.	3579.	7481.

CRUDE BIRTH RATE: 0.013
GENERAL FERTILITY RATE: 0.048
CRUDE DEATH RATE: 0.009

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:00 NOV 22, 1985

5-YEAR AGE-GROUPS, 1999

AGE	TOTAL	MALE	FEMALE
0 - 4	42122.	21534.	20588.
5 - 9	44392.	24022.	20370.
10 - 14	50209.	28219.	21990.
15 - 19	50575.	28493.	22082.
20 - 24	65016.	32564.	32452.
25 - 29	52475.	26311.	26164.
30 - 34	45594.	23038.	22556.
35 - 39	53384.	24828.	28555.
40 - 44	62761.	30834.	31928.
45 - 49	46957.	22715.	24243.
50 - 54	37392.	19407.	17985.
55 - 59	23801.	11791.	12009.
60 - 64	24516.	12093.	12424.
65 - 69	24272.	11862.	12409.
70 - 74	23804.	11358.	12446.
75 - 79	17589.	7775.	9814.
80 - 84	8928.	3061.	5867.
85+	7401.	2338.	5063.
TOTAL	681183.	342240.	338943.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:00 NOV 22, 1985

SELECTED AGE-GROUPS, 1998

AGE	TOTAL	MALE	FEMALE
15 - 49	373852.	187189.	186662.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4542.	4364.	8906.
DEATHS	3285.	2887.	6172.
NAT. INCREASE	1257.	1477.	2734.
POP. INCREASE	3777.	3457.	7234.

CRUDE BIRTH RATE: 0.013
GENERAL FERTILITY RATE: 0.048
CRUDE DEATH RATE: 0.009

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:00 NOV 22, 1985

5-YEAR AGE-GROUPS, 2000

AGE	TOTAL	MALE	FEMALE
0 - 4	41886.	21414.	20471.
5 - 9	43763.	23703.	20060.
10 - 14	49837.	28046.	21791.
15 - 19	52121.	29270.	22851.
20 - 24	66577.	33785.	32793.
25 - 29	52902.	26593.	26309.
30 - 34	44550.	22676.	21874.
35 - 39	51622.	23543.	28079.
40 - 44	61974.	30326.	31648.
45 - 49	50256.	24517.	25740.
50 - 54	39855.	20333.	19522.
55 - 59	24462.	12211.	12251.
60 - 64	24441.	12121.	12320.
65 - 69	24231.	11828.	12403.
70 - 74	24154.	11483.	12671.
75 - 79	18462.	8245.	10217.
80 - 84	9289.	3215.	6074.
85+	7794.	2461.	5333.
TOTAL	688173.	345767.	342406.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:00 NOV 22, 1985

SELECTED AGE-GROUPS, 1999

AGE	TOTAL	MALE	FEMALE
15 - 49	376761.	188782.	187979.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4532.	4355.	8887.
DEATHS	3390.	2988.	6378.
NAT. INCREASE	1142.	1367.	2509.
POP. INCREASE	3662.	3347.	7009.

CRUDE BIRTH RATE: 0.013
GENERAL FERTILITY RATE: 0.047
CRUDE DEATH RATE: 0.009

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:01 NOV 22, 1985

5-YEAR AGE-GROUPS, 2001

AGE	TOTAL	MALE	FEMALE
0 - 4	41792.	21367.	20425.
5 - 9	43157.	23395.	19761.
10 - 14	49359.	27815.	21544.
15 - 19	53181.	29779.	23402.
20 - 24	68193.	34915.	33278.
25 - 29	53605.	27112.	26493.
30 - 34	44475.	22685.	21790.
35 - 39	49260.	22315.	26946.
40 - 44	60764.	29402.	31362.
45 - 49	53172.	26089.	27083.
50 - 54	42094.	21235.	20860.
55 - 59	25774.	12940.	12834.
60 - 64	24300.	12031.	12269.
65 - 69	24312.	11923.	12389.
70 - 74	24331.	11545.	12786.
75 - 79	19083.	8536.	10547.
80 - 84	10011.	3543.	6468.
85+	8162.	2592.	5570.
TOTAL	695019.	349215.	345804.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:00 NOV 22, 1985

SELECTED AGE-GROUPS, 2000

AGE	TOTAL	MALE	FEMALE
15 - 49	380003.	190708.	189294.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4540.	4362.	8901.
DEATHS	3500.	3090.	6590.
NAT. INCREASE	1039.	1272.	2311.
POP. INCREASE	3559.	3252.	6811.

CRUDE BIRTH RATE: 0.013
GENERAL FERTILITY RATE: 0.047
CRUDE DEATH RATE: 0.010

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APPENDIX D

Alternative Population Projection by Age and Sex, 1985-2001

C I T Y W I D E

EXECUTION IDENTIFIER: JONG
TIME: 15:17:01 NOV 22, 1985

SELECTED AGE-GROUPS, 2001

AGE	TOTAL	MALE	FEMALE
15 - 49	382648.	192295.	190352.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4561.	4382.	8943.
DEATHS	3603.	3193.	6796.
NAT. INCREASE	958.	1189.	2147.
POP. INCREASE	3478.	3169.	6647.

CRUDE BIRTH RATE: 0.013
GENERAL FERTILITY RATE: 0.047
CRUDE DEATH RATE: 0.010

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Appendix D

EDMONTON DEMOGRAPHIC DATA BASE 1983

AGE	POPULATION MALES	POPULATION FEMALES	SURVIVAL RATIOS MALES	SURVIVAL RATIOS FEMALES	DISTRIBUTION OF MIGRANTS IN MALES	DISTRIBUTION OF MIGRANTS IN FEMALES	DISTRIBUTION OF MIGRANTS OUT MALES	DISTRIBUTION OF MIGRANTS OUT FEMALES	BIRTH RATES
0	5054.	4583.	0.9454	0.9556	466.	250.	466.	250.	0.0
1	4702.	4450.	0.9991	0.9992	466.	250.	466.	250.	0.0
2	4544.	4252.	0.9997	0.9995	524.	250.	524.	250.	0.0
3	4301.	3972.	0.9996	0.9996	583.	293.	583.	293.	0.0
4	3977.	3760.	0.9991	0.9996	641.	336.	641.	336.	0.0
5	3761.	3563.	0.9997	0.9996	877.	379.	877.	379.	0.0
6	3774.	3552.	0.9994	0.9998	950.	422.	950.	422.	0.0
7	3629.	3459.	0.9997	0.9999	897.	1432.	897.	1432.	0.0
8	3370.	3310.	0.9997	0.9997	844.	1350.	844.	1350.	0.0
9	3470.	3206.	0.9997	0.9997	792.	1268.	792.	1268.	0.0
10	3531.	3254.	0.9999	1.0000	581.	392.	581.	392.	0.0
11	3633.	3266.	0.9998	0.9998	539.	365.	539.	365.	0.0
12	3748.	3417.	0.9996	1.0000	608.	338.	608.	338.	0.0
13	3716.	3560.	0.9996	0.9999	677.	382.	677.	382.	0.0
14	3691.	3488.	0.9995	0.9998	746.	427.	746.	427.	0.0
15	3858.	3572.	0.9997	0.9997	681.	471.	681.	471.	0.0094
16	3791.	3635.	0.9988	0.9992	739.	516.	739.	516.	0.0203
17	4295.	4113.	0.9987	0.9996	993.	1235.	993.	1235.	0.0388
18	4854.	5112.	0.9983	0.9993	1247.	1600.	1247.	1600.	0.0582
19	5969.	6534.	0.9980	0.9995	1501.	1965.	1501.	1965.	0.0664
20	6760.	7361.	0.9986	0.9996	2621.	1511.	2621.	1511.	0.0684
21	7155.	7832.	0.9986	0.9997	3000.	1748.	3000.	1748.	0.0764
22	7893.	8156.	0.9985	0.9996	2902.	1984.	2902.	1984.	0.0842
23	8004.	7858.	0.9985	0.9996	2803.	1856.	2803.	1856.	0.0951
24	8447.	7908.	0.9987	0.9992	2704.	1728.	2704.	1728.	0.1016
25	8191.	7682.	0.9985	0.9993	2708.	1600.	2708.	1600.	0.1064
26	7970.	7184.	0.9991	0.9994	2606.	1472.	2606.	1472.	0.1142
27	7566.	6879.	0.9986	0.9996	2371.	2914.	2371.	2914.	0.1137
28	7235.	6515.	0.9989	0.9996	2135.	2687.	2135.	2687.	0.1092
29	7103.	6168.	0.9985	0.9993	1900.	2460.	1900.	2460.	0.1121
30	6317.	5602.	0.9987	0.9992	1602.	971.	1602.	971.	0.0969
31	5497.	4953.	0.9992	0.9993	1375.	873.	1375.	873.	0.0922
32	5350.	4712.	0.9981	0.9996	1263.	774.	1263.	774.	0.0722
33	4858.	4414.	0.9984	0.9999	1151.	695.	1151.	695.	0.0579
34	4800.	4325.	0.9983	0.9991	1039.	615.	1039.	615.	0.0479
35	4602.	4216.	0.9988	0.9987	928.	536.	928.	536.	0.0323
36	4142.	3877.	0.9982	0.9989	816.	457.	816.	457.	0.0277
37	3614.	3461.	0.9984	0.9986	752.	867.	752.	867.	0.0194
38	3244.	3151.	0.9973	0.9982	689.	800.	689.	800.	0.0154
39	3545.	3318.	0.9974	0.9990	626.	733.	626.	733.	0.0097
40	3361.	3225.	0.9984	0.9991	574.	279.	574.	279.	0.0060
41	2914.	2923.	0.9975	0.9980	509.	251.	509.	251.	0.0049
42	2963.	2999.	0.9975	0.9976	462.	223.	462.	223.	0.0023
43	2784.	2767.	0.9964	0.9975	416.	205.	416.	205.	0.0021
44	2831.	2729.	0.9968	0.9975	369.	188.	369.	188.	0.0008
45	2654.	2672.	0.9971	0.9978	305.	171.	305.	171.	0.0007
46	2617.	2591.	0.9952	0.9974	261.	154.	261.	154.	0.0008
47	2693.	2650.	0.9947	0.9973	246.	328.	246.	328.	0.0
48	2553.	2629.	0.9948	0.9974	231.	300.	231.	300.	0.0
49	2864.	2651.	0.9951	0.9962	216.	272.	216.	272.	0.0
50	2835.	2617.	0.9935	0.9970	244.	123.	244.	123.	0.0

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C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:00:24 DEC 10, 1985

5-YEAR AGE-GROUPS, 1983

AGE	TOTAL	MALE	FEMALE
0 - 4	43594.	22579.	21016.
5 - 9	35094.	18004.	17090.
10 - 14	35302.	18318.	16984.
15 - 19	45733.	22767.	22967.
20 - 24	77373.	38258.	39115.
25 - 29	72491.	38064.	34427.
30 - 34	50827.	26822.	24005.
35 - 39	37168.	19146.	18022.
40 - 44	29495.	14853.	14642.
45 - 49	26571.	13380.	13191.
50 - 54	26097.	13374.	12723.
55 - 59	22579.	11022.	11557.
60 - 64	18570.	8806.	9765.
65 - 69	14080.	6323.	7756.
70 - 74	10611.	4505.	6106.
75 - 79	7313.	3027.	4287.
80 - 84	4386.	1645.	2741.
85+	3025.	1020.	2005.
TOTAL	560306.	281911.	278395.

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AGE	POPULATION		SURVIVAL RATIOS		DISTRIBUTION OF MIGRANTS IN		DISTRIBUTION OF MIGRANTS OUT		BIRTH RATES
	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES	
51	2586.	2441.	0.9935	0.9957	226.	109.	226.	109.	0.0
52	2756.	2634.	0.9915	0.9966	185.	95.	185.	95.	0.0
53	2653.	2514.	0.9924	0.9964	143.	76.	143.	76.	0.0
54	2545.	2517.	0.9900	0.9955	102.	58.	102.	58.	0.0
55	2386.	2365.	0.9893	0.9958	36.	39.	36.	39.	0.0
56	2207.	2291.	0.9877	0.9925	12.	20.	12.	20.	0.0
57	2196.	2393.	0.9885	0.9948	11.	3.	11.	3.	0.0
58	2060.	2223.	0.9861	0.9929	11.	3.	11.	3.	0.0
59	2173.	2285.	0.9856	0.9912	10.	3.	10.	3.	0.0
60	2043.	2162.	0.9854	0.9917	0.	0.	0.	0.	0.0
61	1926.	2107.	0.9825	0.9899	0.	0.	0.	0.	0.0
62	1838.	2045.	0.9815	0.9913	0.	0.	0.	0.	0.0
63	1555.	1746.	0.9796	0.9877	0.	0.	0.	0.	0.0
64	1445.	1706.	0.9776	0.9903	0.	0.	0.	0.	0.0
65	1334.	1649.	0.9758	0.9876	0.	0.	0.	0.	0.0
66	1270.	1544.	0.9693	0.9851	0.	0.	0.	0.	0.0
67	1298.	1536.	0.9674	0.9855	0.	0.	0.	0.	0.0
68	1202.	1541.	0.9664	0.9820	0.	0.	0.	0.	0.0
69	1219.	1488.	0.9611	0.9799	0.	0.	0.	0.	0.0
70	1069.	1380.	0.9656	0.9866	0.	0.	0.	0.	0.0
71	907.	1229.	0.9570	0.9821	0.	0.	0.	0.	0.0
72	889.	1263.	0.9596	0.9791	0.	0.	0.	0.	0.0
73	847.	1158.	0.9571	0.9729	0.	0.	0.	0.	0.0
74	793.	1076.	0.9569	0.9724	0.	0.	0.	0.	0.0
75	700.	978.	0.9495	0.9687	0.	0.	0.	0.	0.0
76	631.	885.	0.9447	0.9669	0.	0.	0.	0.	0.0
77	596.	868.	0.9447	0.9632	0.	0.	0.	0.	0.0
78	552.	793.	0.9281	0.9569	0.	0.	0.	0.	0.0
79	548.	763.	0.9191	0.9538	0.	0.	0.	0.	0.0
80	450.	683.	0.9263	0.9512	0.	0.	0.	0.	0.0
81	369.	632.	0.8874	0.9449	0.	0.	0.	0.	0.0
82	353.	595.	0.8821	0.9379	0.	0.	0.	0.	0.0
83	265.	455.	0.8727	0.9209	0.	0.	0.	0.	0.0
84	209.	377.	0.8486	0.9029	0.	0.	0.	0.	0.0
85	148.	297.	0.8667	0.9110	0.	0.	0.	0.	0.0
86	144.	281.	0.8328	0.8892	0.	0.	0.	0.	0.0
87	145.	252.	0.8301	0.8778	0.	0.	0.	0.	0.0
88	116.	205.	0.8444	0.8774	0.	0.	0.	0.	0.0
89	358.	741.	0.8199	0.8624	0.	0.	0.	0.	0.0
90	110.	231.	0.7941	0.8231	0.	0.	0.	0.	0.0
	281911.	278395.			55912.	44102.	55912.	44102.	

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C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:00:55 DEC 10, 1985

5-YEAR AGE-GROUPS, 1984

AGE	TOTAL	MALE	FEMALE
0 - 4	45543.	23491.	22052.
5 - 9	35779.	18324.	17455.
10 - 14	34561.	17958.	16603.
15 - 19	39959.	20260.	19699.
20 - 24	72514.	35165.	37349.
25 - 29	74542.	38848.	35694.
30 - 34	54425.	28796.	25630.
35 - 39	39057.	20193.	18863.
40 - 44	30564.	15423.	15141.
45 - 49	26414.	13230.	13183.
50 - 54	26330.	13546.	12784.
55 - 59	22954.	11246.	11708.
60 - 64	19601.	9358.	10243.
65 - 69	14189.	6342.	7848.
70 - 74	11113.	4732.	6381.
75 - 79	7498.	3071.	4427.
80 - 84	4686.	1764.	2922.
85+	3062.	1012.	2050.
TOTAL	562787.	282757.	280030.

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C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:00:24 DEC 10, 1985

SELECTED AGE-GROUPS, 1983

AGE	TOTAL	MALE	FEMALE
15 - 49	339658.	173290.	166368.

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C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:01:23 DEC 10, 1985

5-YEAR AGE-GROUPS, 1985

AGE	TOTAL	MALE	FEMALE
0 - 4	47092.	24169.	22923.
5 - 9	37260.	19182.	18078.
10 - 14	33823.	17549.	16273.
15 - 19	37163.	19051.	18112.
20 - 24	66237.	31799.	34439.
25 - 29	76196.	39331.	36865.
30 - 34	58521.	30970.	27551.
35 - 39	41726.	21679.	20047.
40 - 44	31238.	15788.	15449.
45 - 49	26644.	13373.	13271.
50 - 54	26167.	13335.	12833.
55 - 59	23612.	11687.	11925.
60 - 64	20297.	9685.	10612.
65 - 69	14433.	6494.	7939.
70 - 74	11495.	4871.	6624.
75 - 79	7784.	3167.	4617.
80 - 84	4868.	1817.	3050.
85+	3140.	1019.	2121.
TOTAL	567690.	284964.	282726.

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C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:00:55 DEC 10, 1985

SELECTED AGE-GROUPS, 1984

AGE	TOTAL	MALE	FEMALE
15 - 49	337474.	171914.	165559.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	13552.	10648.	24200.
OUT-MIGRANTS	15904.	12496.	28400.
NET-MIGRANTS	-2352.	-1848.	-4200.
BIRTHS	5290.	5082.	10372.
DEATHS	1877.	1513.	3390.
NAT. INCREASE	3413.	3569.	6982.
POP. INCREASE	1061.	1721.	2782.

CRUDE BIRTH RATE: 0.018
GENERAL FERTILITY RATE: 0.063
CRUDE DEATH RATE: 0.006

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C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:01:54 DEC 10, 1985

5-YEAR AGE-GROUPS, 1986

AGE	TOTAL	MALE	FEMALE
0 - 4	48213.	24668.	23545.
5 - 9	39092.	20132.	18959.
10 - 14	33707.	17437.	16270.
15 - 19	36070.	18557.	17513.
20 - 24	58827.	28358.	30469.
25 - 29	77896.	39652.	38243.
30 - 34	62737.	33125.	29613.
35 - 39	44675.	23372.	21303.
40 - 44	32257.	16398.	15860.
45 - 49	27184.	13586.	13598.
50 - 54	25987.	13191.	12796.
55 - 59	24199.	12100.	12100.
60 - 64	20732.	9873.	10860.
65 - 69	15155.	6827.	8328.
70 - 74	11811.	5050.	6761.
75 - 79	8092.	3260.	4832.
80 - 84	4959.	1833.	3126.
85+	3315.	1056.	2259.
TOTAL	574904.	288472.	286432.

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C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:01:24 DEC 10, 1985

SELECTED AGE-GROUPS, 1985

AGE	TOTAL	MALE	FEMALE
15 - 49	337724.	171991.	165733.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	16296.	12804.	29100.
OUT-MIGRANTS	17248.	13552.	30800.
NET-MIGRANTS	-952.	-748.	-1700.
BIRTHS	5291.	5083.	10374.
DEATHS	1918.	1555.	3474.
NAT. INCREASE	3372.	3528.	6900.
POP. INCREASE	2420.	2780.	5200.

CRUDE BIRTH RATE: 0.018
GENERAL FERTILITY RATE: 0.063
CRUDE DEATH RATE: 0.006

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:02:20 DEC 10, 1985

5-YEAR AGE-GROUPS, 1987

AGE	TOTAL	MALE	FEMALE
0 - 4	48950.	24996.	23954.
5 - 9	41081.	21131.	19950.
10 - 14	34151.	17601.	16550.
15 - 19	35710.	18471.	17239.
20 - 24	51707.	25266.	26441.
25 - 29	77976.	38934.	39042.
30 - 34	67388.	35579.	31809.
35 - 39	47108.	24708.	22399.
40 - 44	34377.	17596.	16781.
45 - 49	27751.	13839.	13911.
50 - 54	26056.	13155.	12901.
55 - 59	24520.	12335.	12186.
60 - 64	20943.	9992.	10951.
65 - 69	16028.	7262.	8766.
70 - 74	12111.	5174.	6936.
75 - 79	8329.	3331.	4998.
80 - 84	5049.	1864.	3185.
85+	3449.	1071.	2379.
TOTAL	582679.	292303.	290376.

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C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:01:54 DEC 10, 1985

SELECTED AGE-GROUPS, 1986

AGE	TOTAL	MALE	FEMALE
15 - 49	339645.	173047.	166598.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	17472.	13728.	31200.
OUT-MIGRANTS	17080.	13420.	30500.
NET-MIGRANTS	392.	308.	700.
BIRTHS	5288.	5081.	10369.
DEATHS	1960.	1601.	3561.
NAT. INCREASE	3328.	3479.	6807.
POP. INCREASE	3720.	3787.	7507.

CRUDE BIRTH RATE: 0.018
GENERAL FERTILITY RATE: 0.062
CRUDE DEATH RATE: 0.006

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:02:54 DEC 10, 1985

5-YEAR AGE-GROUPS, 1988

AGE	TOTAL	MALE	FEMALE
0 - 4	49143.	24946.	24197.
5 - 9	43600.	22537.	21063.
10 - 14	34810.	17887.	16923.
15 - 19	35288.	18258.	17030.
20 - 24	45706.	22775.	22931.
25 - 29	76715.	37760.	38955.
30 - 34	71497.	37520.	33977.
35 - 39	50274.	26450.	23825.
40 - 44	36610.	18836.	17774.
45 - 49	28965.	14516.	14449.
50 - 54	25864.	12933.	12931.
55 - 59	25030.	12648.	12382.
60 - 64	21239.	10176.	11063.
65 - 69	16890.	7736.	9154.
70 - 74	12285.	5217.	7068.
75 - 79	8688.	3470.	5218.
80 - 84	5175.	1895.	3280.
85+	3593.	1101.	2493.
TOTAL	591368.	296657.	294711.

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C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:02:20 DEC 10, 1985

SELECTED AGE-GROUPS, 1987

AGE	TOTAL	MALE	FEMALE
15 - 49	342016.	174394.	167622.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	18200.	14300.	32500.
OUT-MIGRANTS	17416.	13684.	31100.
NET-MIGRANTS	784.	616.	1400.
BIRTHS	5264.	5057.	10321.
DEATHS	2004.	1651.	3655.
NAT. INCREASE	3260.	3406.	6666.
POP. INCREASE	4044.	4022.	8066.

CRUDE BIRTH RATE: 0.018
GENERAL FERTILITY RATE: 0.062
CRUDE DEATH RATE: 0.006

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:03:25 DEC 10, 1985

5-YEAR AGE-GROUPS, 1989

AGE	TOTAL	MALE	FEMALE
0 - 4	48946.	24860.	24086.
5 - 9	45939.	23692.	22247.
10 - 14	36083.	18481.	17602.
15 - 19	34985.	18154.	16831.
20 - 24	41115.	20908.	20207.
25 - 29	73518.	35666.	37851.
30 - 34	74912.	38998.	35914.
35 - 39	54480.	28793.	25687.
40 - 44	38913.	20104.	18809.
45 - 49	30229.	15212.	15018.
50 - 54	25871.	12873.	12998.
55 - 59	25313.	12850.	12463.
60 - 64	21600.	10389.	11211.
65 - 69	17821.	8219.	9602.
70 - 74	12386.	5234.	7152.
75 - 79	9103.	3648.	5455.
80 - 84	5323.	1932.	3391.
85+	3775.	1155.	2620.
TOTAL	600307.	301165.	299142.

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C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:02:54 DEC 10, 1985

SELECTED AGE-GROUPS, 1988

AGE	TOTAL	MALE	FEMALE
15 - 49	345055.	176114.	168940.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	18872.	14828.	33700.
OUT-MIGRANTS	17472.	13728.	31200.
NET-MIGRANTS	1400.	1100.	2500.
BIRTHS	5214.	5010.	10224.
DEATHS	2046.	1698.	3743.
NAT. INCREASE	3169.	3312.	6481.
POP. INCREASE	4569.	4412.	8981.

CRUDE BIRTH RATE: 0.017
GENERAL FERTILITY RATE: 0.061
CRUDE DEATH RATE: 0.006

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:03:55 DEC 10, 1985

5-YEAR AGE-GROUPS, 1990

AGE	TOTAL	MALE	FEMALE
0 - 4	48533.	24662.	23870.
5 - 9	47795.	24557.	23239.
10 - 14	38002.	19546.	18456.
15 - 19	34594.	17945.	16649.
20 - 24	39228.	20193.	19034.
25 - 29	68523.	33066.	35457.
30 - 34	77584.	40005.	37580.
35 - 39	59028.	31242.	27787.
40 - 44	41878.	21747.	20131.
45 - 49	31050.	15671.	15380.
50 - 54	26213.	13073.	13141.
55 - 59	25202.	12675.	12527.
60 - 64	22219.	10799.	11419.
65 - 69	18440.	8496.	9944.
70 - 74	12597.	5361.	7237.
75 - 79	9419.	3756.	5663.
80 - 84	5533.	1995.	3538.
85+	3906.	1180.	2725.
TOTAL	609741.	305966.	303775.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:03:25 DEC 10, 1985

SELECTED AGE-GROUPS, 1989

AGE	TOTAL	MALE	FEMALE
15 - 49	348151.	177835.	170315.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	19376.	15224.	34600.
OUT-MIGRANTS	17696.	13904.	31600.
NET-MIGRANTS	1680.	1320.	3000.
BIRTHS	5133.	4932.	10065.
DEATHS	2095.	1752.	3847.
NAT. INCREASE	3039.	3180.	6219.
POP. INCREASE	4719.	4500.	9219.

CRUDE BIRTH RATE: 0.017
GENERAL FERTILITY RATE: 0.059
CRUDE DEATH RATE: 0.006

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:04:34 DEC 10, 1985

5-YEAR AGE-GROUPS, 1991

AGE	TOTAL	MALE	FEMALE
0 - 4	47867.	24334.	23533.
5 - 9	49132.	25185.	23948.
10 - 14	40109.	20627.	19482.
15 - 19	34717.	17968.	16749.
20 - 24	38771.	20051.	18720.
25 - 29	61965.	30129.	31836.
30 - 34	79915.	40651.	39264.
35 - 39	63518.	33561.	29957.
40 - 44	44998.	23530.	21468.
45 - 49	32154.	16332.	15823.
50 - 54	26817.	13320.	13497.
55 - 59	25056.	12555.	12501.
60 - 64	22771.	11182.	11588.
65 - 69	18835.	8659.	10176.
70 - 74	13234.	5640.	7594.
75 - 79	9674.	3894.	5780.
80 - 84	5759.	2053.	3707.
85+	4038.	1202.	2836.
TOTAL	619326.	310870.	308457.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:03:55 DEC 10, 1985

SELECTED AGE-GROUPS, 1990

AGE	TOTAL	MALE	FEMALE
15 - 49	351885.	179867.	172017.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	19824.	15576.	35400.
OUT-MIGRANTS	17696.	13904.	31600.
NET-MIGRANTS	2128.	1672.	3800.
BIRTHS	5027.	4830.	9856.
DEATHS	2150.	1809.	3960.
NAT. INCREASE	2876.	3020.	5896.
POP. INCREASE	5004.	4692.	9696.

CRUDE BIRTH RATE: 0.016
GENERAL FERTILITY RATE: 0.057
CRUDE DEATH RATE: 0.006

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:24 DEC 10, 1985

5-YEAR AGE-GROUPS, 1992

AGE	TOTAL	MALE	FEMALE
0 - 4	46954.	23877.	23076.
5 - 9	50044.	25620.	24424.
10 - 14	42344.	21741.	20603.
15 - 19	35353.	18243.	17109.
20 - 24	38926.	20244.	18683.
25 - 29	55580.	27477.	28104.
30 - 34	80575.	40232.	40343.
35 - 39	68404.	36158.	32246.
40 - 44	47588.	24948.	22640.
45 - 49	34330.	17565.	16765.
50 - 54	27437.	13600.	13837.
55 - 59	25146.	12534.	12611.
60 - 64	23066.	11396.	11670.
65 - 69	19022.	8762.	10261.
70 - 74	13994.	6000.	7994.
75 - 79	9906.	3982.	5924.
80 - 84	5920.	2091.	3828.
85+	4141.	1219.	2921.
TOTAL	628724.	315687.	313037.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:04:34 DEC 10, 1985

SELECTED AGE-GROUPS, 1991

AGE	TOTAL	MALE	FEMALE
15 - 49	356037.	182220.	173816.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	20328.	15972.	36300.
OUT-MIGRANTS	17920.	14080.	32000.
NET-MIGRANTS	2408.	1892.	4300.
BIRTHS	4897.	4705.	9602.
DEATHS	2208.	1872.	4080.
NAT. INCREASE	2689.	2833.	5522.
POP., INCREASE	5097.	4725.	9822.

CRUDE BIRTH RATE: 0.016
GENERAL FERTILITY RATE: 0.055
CRUDE DEATH RATE: 0.007

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:24 DEC 10, 1985

5-YEAR AGE-GROUPS, 1993

AGE	TOTAL	MALE	FEMALE
0 - 4	45816.	23304.	22512.
5 - 9	50342.	25638.	24704.
10 - 14	45027.	23220.	21806.
15 - 19	36126.	18598.	17528.
20 - 24	38828.	20203.	18625.
25 - 29	50059.	25276.	24783.
30 - 34	79709.	39260.	40449.
35 - 39	72659.	38189.	34470.
40 - 44	50847.	26735.	24112.
45 - 49	36589.	18823.	17767.
50 - 54	28667.	14279.	14388.
55 - 59	24983.	12336.	12647.
60 - 64	23543.	11686.	11857.
65 - 69	19290.	8925.	10365.
70 - 74	14739.	6391.	8349.
75 - 79	10047.	4011.	6035.
80 - 84	6177.	2181.	3996.
85+	4271.	1245.	3026.
TOTAL	637715.	320298.	317417.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:24 DEC 10, 1985

SELECTED AGE-GROUPS, 1992

AGE	TOTAL	MALE	FEMALE
15 - 49	360756.	184867.	175889.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4749.	4563.	9313.
DEATHS	2267.	1936.	4203.
NAT. INCREASE	2482.	2627.	5109.
POP. INCREASE	5002.	4607.	9609.

CRUDE BIRTH RATE: 0.015
GENERAL FERTILITY RATE: 0.053
CRUDE DEATH RATE: 0.007

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:24 DEC 10, 1985

5-YEAR AGE-GROUPS, 1994

AGE	TOTAL	MALE	FEMALE
0 - 4	44514.	22645.	21869.
5 - 9	50217.	25600.	24617.
10 - 14	47495.	24434.	23061.
15 - 19	37477.	19240.	18236.
20 - 24	38740.	20210.	18530.
25 - 29	45829.	23629.	22200.
30 - 34	76840.	37337.	39503.
35 - 39	76189.	39741.	36449.
40 - 44	55110.	29103.	26006.
45 - 49	38903.	20098.	18805.
50 - 54	29936.	14973.	14964.
55 - 59	25011.	12292.	12719.
60 - 64	23809.	11873.	11936.
65 - 69	19625.	9119.	10505.
70 - 74	15544.	6788.	8756.
75 - 79	10137.	4028.	6109.
80 - 84	6481.	2302.	4179.
85+	4434.	1284.	3150.
TOTAL	646285.	324693.	321592.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:24 DEC 10, 1985

SELECTED AGE-GROUPS, 1993

AGE	TOTAL	MALE	FEMALE
15 - 49	364816.	187083.	177733.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4590.	4410.	9000.
DEATHS	2326.	1998.	4324.
NAT. INCREASE	2264.	2413.	4676.
POP. INCREASE	4784.	4393.	9176.

CRUDE BIRTH RATE: 0.014
GENERAL FERTILITY RATE: 0.051
CRUDE DEATH RATE: 0.007

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:24 DEC 10, 1985

5-YEAR AGE-GROUPS, 1995

AGE	TOTAL	MALE	FEMALE
0 - 4	43111.	21934.	21177.
5 - 9	49836.	25424.	24413.
10 - 14	49412.	25326.	24085.
15 - 19	39426.	20323.	19103.
20 - 24	38445.	20050.	18395.
25 - 29	44109.	23016.	21093.
30 - 34	72018.	34828.	37191.
35 - 39	78909.	40779.	38131.
40 - 44	59659.	31547.	28112.
45 - 49	41839.	21722.	20117.
50 - 54	30751.	15424.	15327.
55 - 59	25347.	12486.	12861.
60 - 64	23706.	11708.	11998.
65 - 69	20179.	9480.	10700.
70 - 74	16076.	7012.	9064.
75 - 79	10311.	4128.	6183.
80 - 84	6707.	2368.	4339.
85+	4604.	1322.	3283.
TOTAL	654443.	328876.	325567.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:24 DEC 10, 1985

SELECTED AGE-GROUPS, 1994

AGE	TOTAL	MALE	FEMALE
15 - 49	369087.	189358.	179728.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4427.	4254.	8681.
DEATHS	2390.	2063.	4453.
NAT. INCREASE	2037.	2190.	4227.
POP. INCREASE	4557.	4170.	8727.

CRUDE BIRTH RATE: 0.013
GENERAL FERTILITY RATE: 0.048
CRUDE DEATH RATE: 0.007

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:25 DEC 10, 1985

5-YEAR AGE-GROUPS, 1996

AGE	TOTAL	MALE	FEMALE
0 - 4	41686.	21212.	20475.
5 - 9	49181.	25102.	24079.
10 - 14	50766.	25962.	24804.
15 - 19	41538.	21407.	20131.
20 - 24	38592.	20085.	18507.
25 - 29	43699.	22903.	20796.
30 - 34	65534.	31932.	33602.
35 - 39	81244.	41431.	39813.
40 - 44	64118.	33847.	30272.
45 - 49	44914.	23475.	21439.
50 - 54	31832.	16067.	15765.
55 - 59	25935.	12724.	13211.
60 - 64	23572.	11598.	11973.
65 - 69	20677.	9817.	10861.
70 - 74	16422.	7146.	9276.
75 - 79	10847.	4352.	6494.
80 - 84	6881.	2453.	4428.
85+	4787.	1354.	3433.
TOTAL	662221.	332864.	329356.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:24 DEC 10, 1985

SELECTED AGE-GROUPS, 1995

AGE	TOTAL	MALE	FEMALE
15 - 49	374406.	192266.	182140.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4271.	4104.	8375.
DEATHS	2458.	2127.	4585.
NAT. INCREASE	1813.	1977.	3790.
POP. INCREASE	4333.	3957.	8290.

CRUDE BIRTH RATE: 0.013
GENERAL FERTILITY RATE: 0.046
CRUDE DEATH RATE: 0.007

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:25 DEC 10, 1985

5-YEAR AGE-GROUPS, 1997

AGE	TOTAL	MALE	FEMALE
0 - 4	40322.	20520.	19803.
5 - 9	48269.	24646.	23623.
10 - 14	51676.	26396.	25279.
15 - 19	43768.	22517.	21251.
20 - 24	39225.	20358.	18866.
25 - 29	43854.	23094.	20759.
30 - 34	59178.	29298.	29880.
35 - 39	81899.	41014.	40885.
40 - 44	68953.	36412.	32541.
45 - 49	47462.	24866.	22596.
50 - 54	33954.	17262.	16692.
55 - 59	26529.	12989.	13541.
60 - 64	23654.	11576.	12078.
65 - 69	20930.	9996.	10934.
70 - 74	16581.	7229.	9351.
75 - 79	11471.	4632.	6838.
80 - 84	7026.	2496.	4529.
85+	4909.	1375.	3533.
TOTAL	669654.	336675.	332979.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:25 DEC 10, 1985

SELECTED AGE-GROUPS, 1996

AGE	TOTAL	MALE	FEMALE
15 - 49	379639.	195079.	184559.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	4131.	3969.	8100.
DEATHS	2521.	2192.	4713.
NAT. INCREASE	1610.	1777.	3387.
POP. INCREASE	4130.	3757.	7887.

CRUDE BIRTH RATE: 0.012
GENERAL FERTILITY RATE: 0.044
CRUDE DEATH RATE: 0.007

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:25 DEC 10, 1985

5-YEAR AGE-GROUPS, 1998

AGE	TOTAL	MALE	FEMALE
0 - 4	39099.	19899.	19200.
5 - 9	47134.	24075.	23060.
10 - 14	51974.	26415.	25560.
15 - 19	46442.	23991.	22451.
20 - 24	39994.	20710.	19284.
25 - 29	43756.	23054.	20702.
30 - 34	53681.	27112.	26569.
35 - 39	81038.	40049.	40989.
40 - 44	73166.	38418.	34747.
45 - 49	50672.	26622.	24050.
50 - 54	36161.	18483.	17678.
55 - 59	27714.	13635.	14079.
60 - 64	23506.	11394.	12112.
65 - 69	21358.	10249.	11109.
70 - 74	16812.	7367.	9445.
75 - 79	12074.	4933.	7141.
80 - 84	7122.	2509.	4613.
85+	5106.	1427.	3679.
TOTAL	676807.	340341.	336466.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:25 DEC 10, 1985

5-YEAR AGE-GROUPS, 1999

AGE	TOTAL	MALE	FEMALE
0 - 4	38085.	19385.	18700.
5 - 9	45834.	23417.	22417.
10 - 14	51850.	26377.	25473.
15 - 19	48902.	25199.	23703.
20 - 24	41338.	21347.	19991.
25 - 29	43668.	23061.	20607.
30 - 34	49470.	25477.	23993.
35 - 39	78187.	38141.	40046.
40 - 44	76662.	39952.	36710.
45 - 49	54871.	28949.	25922.
50 - 54	38422.	19722.	18699.
55 - 59	28936.	14296.	14641.
60 - 64	23541.	11359.	12182.
65 - 69	21596.	10413.	11183.
70 - 74	17105.	7530.	9575.
75 - 79	12725.	5238.	7488.
80 - 84	7198.	2527.	4671.
85+	5345.	1499.	3845.
TOTAL	683732.	343887.	339845.

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:25 DEC 10, 1985

SELECTED AGE-GROUPS, 2000

AGE	TOTAL	MALE	FEMALE
15 - 49	397319.	204256.	193064.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	3862.	3710.	7572.
DEATHS	2813.	2466.	5278.
NAT. INCREASE	1049.	1245.	2294.
POP. INCREASE	3569.	3225.	6794.

CRUDE BIRTH RATE: 0.011
GENERAL FERTILITY RATE: 0.039
CRUDE DEATH RATE: 0.008

University of Alberta

C I T Y W I D E

EXECUTION IDENTIFIER: TIM
TIME: 14:06:25 DEC 10, 1985

SELECTED AGE-GROUPS, 2001

AGE	TOTAL	MALE	FEMALE
15 - 49	400763.	205912.	194851.

ANNUAL POPULATION CHANGE SUMMARY

	MALES	FEMALES	TOTAL
IN-MIGRANTS	21280.	16720.	38000.
OUT-MIGRANTS	18760.	14740.	33500.
NET-MIGRANTS	2520.	1980.	4500.
BIRTHS	3867.	3715.	7583.
DEATHS	2887.	2535.	5422.
NAT. INCREASE	980.	1180.	2160.
POP. INCREASE	3500.	3160.	6660.

CRUDE BIRTH RATE: 0.011
GENERAL FERTILITY RATE: 0.039
CRUDE DEATH RATE: 0.008

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